<u>**Amendments to the Claims**</u>:

This listing of claims will replace all prior versions, and listings, of claims in the application:

<u>**Listing of Claims**</u>:

1-18.   (canceled)

19.   (previously presented)   A system for identifying a path for a multiple point communication service within a network that includes a plurality of ingress nodes and a plurality of egress nodes and a plurality of links connecting to the ingress nodes and the egress nodes, the system comprising:

means for setting an objective function for minimizing a link load in the network;

means for setting a first constraint expression for deriving the link load;

means for generating a second constraint expression for selecting a route for data traffic received by the ingress nodes;

means for generating a third constraint expression for calculating a link band for the links based on the data traffic received by the ingress nodes;

means for generating a fourth constraint expression to assure that a link capacity limit associated with the links is not exceeded, wherein the means for setting the first constraint expression, the means for generating the second constraint expression, the means for generating the third constraint expression, and the means for generating the fourth constraint expression are configured to operate in parallel; and

means for identifying a path for the multiple point communication service based on the

objective function and the first, second, third, and fourth constraint expressions.

20.   (canceled)

21.   (previously presented) The system of claim 19, wherein input data rates are

associated with the ingress nodes and output data rates are associated with the egress nodes, the

multiple point communication service permitting an arbitrary data rate within a range based on

the input data rates and the output data rates.

22.   (previously presented) A method for identifying a path for a multiple point

communication service within a network that includes a plurality of ingress nodes and a plurality

of egress nodes and a plurality of links connecting to the ingress nodes and the egress nodes, the

~~system~~ method comprising:

    setting an objective function for minimizing a link load in the network;

    setting a first constraint expression for deriving the link load;

    generating a second constraint expression for selecting a route for data traffic received by

the ingress nodes;

    generating a third constraint expression for calculating a link band for the links based on

the data traffic received by the ingress nodes;

    generating a fourth constraint expression to assure that a link capacity limit associated

with the links is not exceeded, wherein the setting the first constraint expression, the generating

the second constraint expression, the generating the third constraint expression, and the generating the fourth constraint expression are performed in parallel; and

identifying a path for the multiple point communication service based on the objective function and the first, second, third, and fourth constraint expressions.

23. (canceled)

24. (previously presented) The method of claim 22, wherein input data rates are associated with the ingress nodes and output data rates are associated with the egress nodes, the multiple point communication service permitting an arbitrary data rate within a range based on the input data rates and the output data rates.

25. (previously presented) A system for identifying a path for a multiple point communication service within a network that includes a plurality of ingress nodes and a plurality of egress nodes and a plurality of links connecting to the ingress nodes and the egress nodes, the system comprising:

an optimization reference generator to:

set an objective function for minimizing a link load in the network, and

set a first constraint expression for deriving the link load;

a route selecting condition generator to generate a second constraint expression for selecting a route for data traffic received by the ingress nodes;

a link capacity calculating condition generator to generate a third constraint expression

for calculating a link band for the links based on the data traffic received by the ingress nodes;

a link including condition generator to generate a fourth constraint expression to assure that a link capacity limit associated with the links is not exceeded, wherein the optimization reference generator, the route selecting condition generator, the link capacity calculating condition generator, and the link including condition generator operate in parallel; and

an optimizer to identify a path for the multiple point communication service based on the objective function and the first, second, third, and fourth constraint expressions.

26.   (canceled)

27.   (previously presented) The system of claim 25, wherein input data rates are associated with the ingress nodes and output data rates are associated with the egress nodes, the multiple point communication service permitting an arbitrary data rate within a range based on the input data rates and the output data rates.